

APPENDIX:

Table of Contents

List of Investigators	Page 2
Text	Page 3
Table S1	Pages 4-5
Figure S1	Page 6
Figure S2	Page 7

LIST OF INVESTIGATORS

This work was funded by National Health and Medical Research Council (NHMRC) Program Grant 568612 and approved by the NSW Population and Health Services Research Ethics Committee and the UNSW Human Research Ethics Committee. Its contents are the responsibility of the authors and their institutions and do not reflect the views of NHMRC.

Oscar Perez Concha, Blanca Gallego, Enrico Coiera,

Centre for Health Informatics, Australian Institute of Health Innovation
Level 1, AGSM Building, G27. UNSW, Kensington NSW 2052 Australia
phone 02 9385 8894, fax 02 9385 8692

Ken Hillman,

Professor of Intensive Care, Liverpool Hospital, University of New South Wales (SWS Clinical School) | Director of The Simpson Centre for Health Services Research | affiliated with the Australian Institute of Health Innovation | University of New South Wales

Tel: (02) 8738 3431 | Fax: (02) 8738 3551 |

Geoff P Delaney,

Conjoint Professor, University of New South Wales
Conjoint Professor, University of Western Sydney
Director of Cancer Services
Sydney South West Local Health District. C/- Department of Radiation Oncology
Cancer Therapy Centre. Liverpool Hospital
Locked Bag 7103. LIVERPOOL NSW 1871

We found 16 DRGs were patients were at risk of a weekend effect. Taken as a combined group, these 16 DRGs exhibited a *mixed effect pattern* consistent with both patient effect and weekend care contributing to excess mortality (Figure S1).

Table S1 lists these diagnostic groups, including information about the Major Diagnostic Category (MDC), and the different subcategories depending on the complication and comorbidity levels (CC), using the definitions manual of Australian Refined Diagnosis Related Groups, version 4.1.

Figure S2 shows the excess mortality risk curves related to the weekend effect for these 16 DRGs. These curves are classified into the four patterns proposed in the paper:

Care effect: Three patterns demonstrate a short rise in mortality associated with weekend admission:

- An *early risk* pattern showed the majority of excess deaths occurring within the first 24 hours after admission.
- A *risk washout* pattern showed the greatest impact of weekend admission in the first 48-hours, gradually reducing throughout the rest of the week.

Patient effect. In the *steady risk* pattern, the impact of weekend admission was distributed uniformly across the week post admission, and appeared to not alter with re-exposure to weekday care.

Mixed Effect. In this group a spike in mortality was associated with weekend admission and reduced on exposure to weekday care, but remained elevated after washout.

Table S1. List of Australian Refined Diagnosis Related Groups (AR-DRGs), version 4.1 for the 16 DRGs at risk of weekend effect.

List of Australian Refined Diagnosis Related Groups, version 4.1

MDC 01 Diseases & disorders of the nervous system

B02

B02A Craniotomy W Catastrophic CC Surgical

B02B Craniotomy W Severe CC Surgical

B02C Cranial Procedures W/O Catastrophic or Severe CC Surgical

B67

B67A Degenerative Nervous System Disorders W Catastrophic or Severe CC Medical

B67B Degenerative Nervous System Disorders W Moderate CC Medical

B67C Degenerative Nervous System Disorders W/O CC Medical

B70

B70A Stroke and Other Cerebrovascular Disorders W Catastrophic CC Medical

B70B Stroke and Other Cerebrovascular Disorders W Severe CC Medical

B70C Stroke and Other Cerebrovascular Disorders W/O Catastrophic or Severe CC Medical

B70D Stroke and Other Cerebrovascular Disorders, Died or Transferred <5 Days Medical

MDC 04 Diseases & disorders of the respiratory system

E61

E61A Pulmonary Embolism W Catastrophic CC Medical

E61B Pulmonary Embolism W/O Catastrophic CC Medical

E64

E64A Pulmonary Oedema and Respiratory Failure W Catastrophic CC Medical

E64B Pulmonary Oedema and Respiratory Failure W/O Catastrophic CC Medical

E71

E71A Respiratory Neoplasms W Catastrophic CC Medical

E71B Respiratory Neoplasms W/O Catastrophic CC Medical

MDC 05 Diseases & disorders of the circulatory system

F62

F62A Heart Failure and Shock W Catastrophic CC Medical

F62B Heart Failure and Shock W/O Catastrophic CC Medical

F65

F65A Peripheral Vascular Disorders W Catastrophic or Severe CC Medical

F65B Peripheral Vascular Disorders W/O Catastrophic or Severe CC Medical

F70

F70A Major Arrhythmia and Cardiac Arrest W Catastrophic or Severe CC Medical

F70B Major Arrhythmia and Cardiac Arrest W/O Catastrophic or Severe CC Medical

MDC 06 Diseases & disorders of the digestive system

G60

G60A Digestive Malignancy W Catastrophic CC Medical

G60B Digestive Malignancy W/O Catastrophic CC Medical

MDC 07 Diseases & disorders of the hepatobiliary system & pancreas

H61

H61A Malignancy of Hepatobiliary System, Pancreas W Catastrophic CC Medical

H61B Malignancy of Hepatobiliary System, Pancreas W/O Catastrophic CC Medical

MDC 08 Diseases & disorders of the musculoskeletal system & connective tissue

I65

I65A Musculoskeletal Malignant Neoplasms W Catastrophic CC Medical

I65B Musculoskeletal Malignant Neoplasms W/O Catastrophic CC Medical

MDC 09 Diseases & disorders of the skin, subcutaneous tissue & breast

J62

J62A Malignant Breast Disorders W CC Medical

J62B Malignant Breast Disorders W/O CC Medical

MDC 11 Diseases & disorders of the kidney & urinary tract

L60

L60A Renal Failure W Catastrophic CC Medical

L60B Renal Failure W Severe CC Medical

L60C Renal Failure W/O Catastrophic or Severe CC Medical

MDC 17 Neoplastic disorders (haematological & solid neoplasms)

R60

R60A Acute Leukaemia W Catastrophic CC Medical

R60B Acute Leukaemia W/O Catastrophic CC Medical

R61

R61A Lymphoma and Non-Acute Leukaemia W Catastrophic CC Medical

R61B Lymphoma and Non-Acute Leukaemia W/O Catastrophic CC Medical

CC: Complication and comorbidity

Cat: Catastrophic

MDC: Major diagnostic category

Sev: Severe

W: with

W/O: without

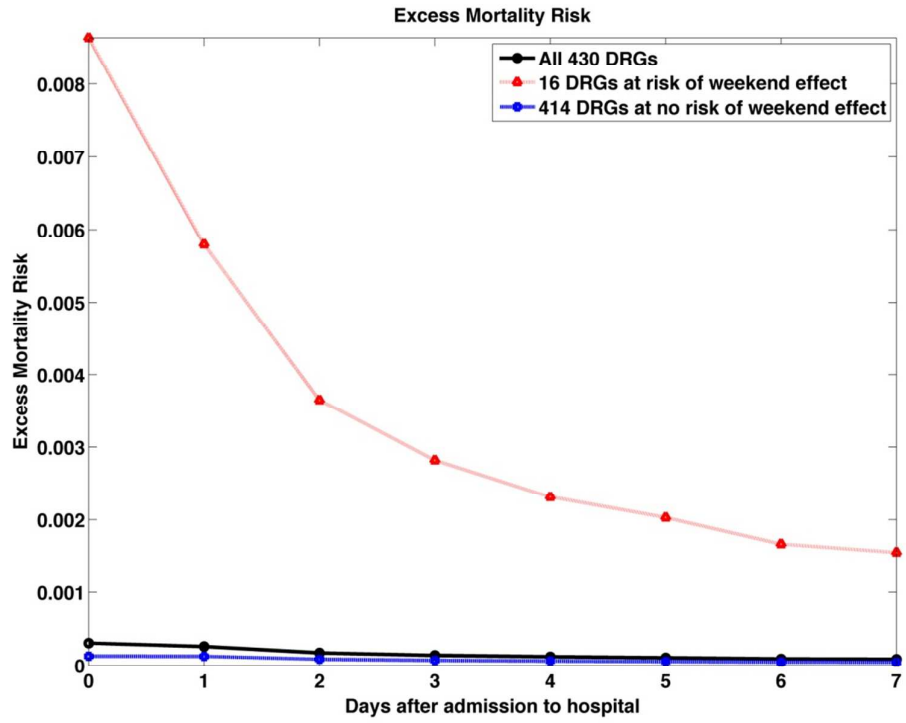


Figure S1: Excess mortality risk curves for all DRGs combined. Excess mortality risk curves for all 430 DRGs combined, the 16 DRGs demonstrating a weekend effect and the remaining DRGs with no weekend effect.

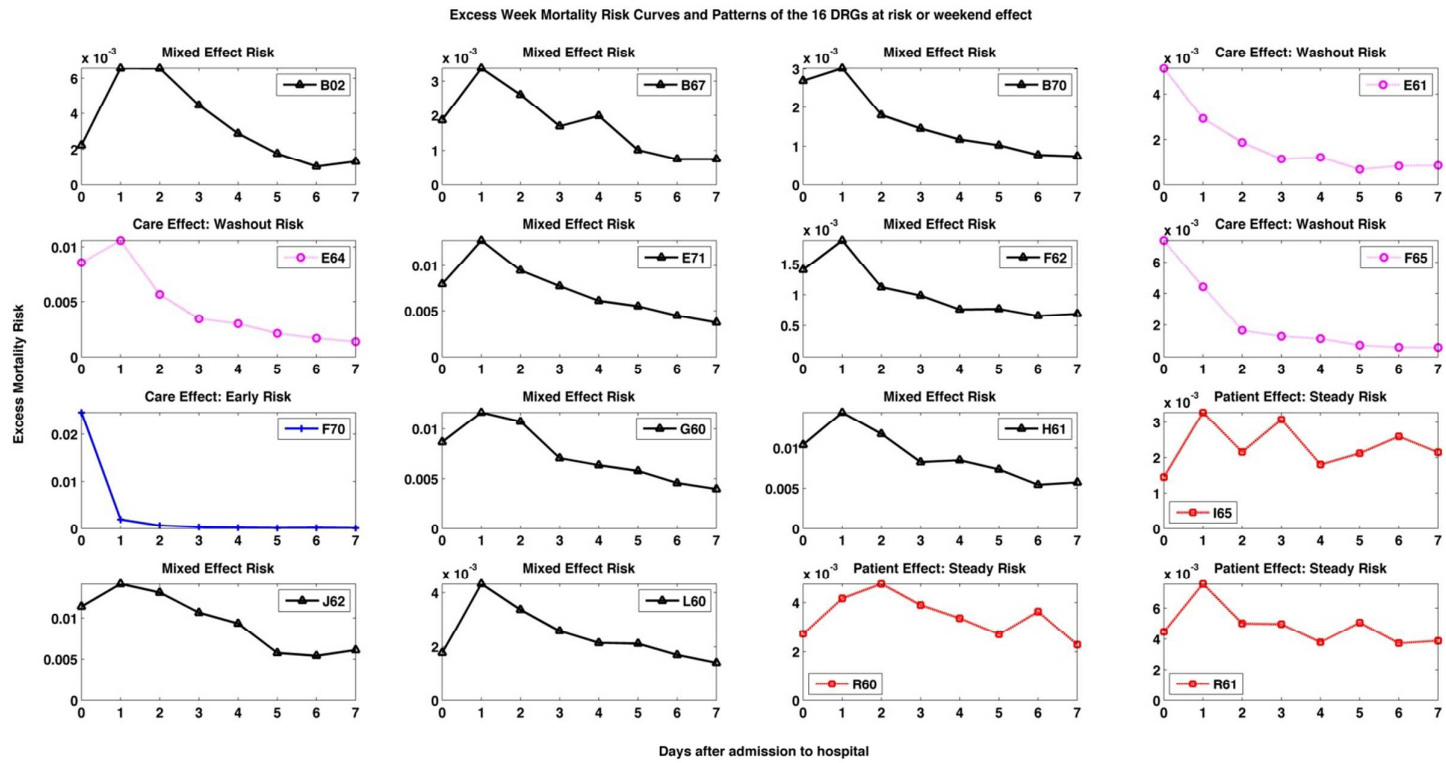


Figure S2: Excess mortality risk curves related to the weekend effect of the 16 DRGs at risk of weekend effect. Each excess mortality curve is classified into a temporary risk pattern: 1) Care Effect: Early Risk or Washout Risk, 2) Patient Effect: Steady Risk and 3) Mixed Effect Risk